REMARKS

This amendment is presented in response to the Office Action mailed 18 May 2005. The drawings were corrected to conform with 37 CFR 1.83(a), showing the plurality of fixation sites with standard interconnection means, the service trough, the dedicated path about said platform, the plurality of custom interfaces, means for recognizing a module's personality and location, and a plurality of specialized operator stations. Reference numbers were placed on the drawings in accordance with 37 CFR 1.84(p)(5). In advertent clerical errors on page 8, lines 8-10 of the application were corrected. No new matter has been added by these amendments.

Claim 1 was amended to present aspects of the invention in a clear and precise fashion. Claims 6-8 were amended to improve consistency of terminology. Claims 9-13 were canceled and replaced with new Claims 14-18.

The Claims Rejection under 35 USC 112

Dependent Claim 6

Dependent Claim 6 was rejected under 35 USC 112, first paragraph, as failing to comply with the enablement requirement. The Examiner has taken the view that the claim contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. How the invention recognizes a module's location is not enabled. The only mention of the location in the specification is on lines 8-12, on page 4. This section only states that the location would be known by some pre-loaded personality, but if modules can be placed in various positions on the platform it is unclear how a pre-loaded personality would know the module's location.

Response to rejection

On page 3 of 16 in the Specification, lines 17-19 state: "The invention contemplates a set of quickly releasable and self-sealing connectors that employ standardized methods with regard to where the connector is located on the vehicle."

Standardized methods for identifying connectors include, among other things, keying each connector differently, shorting designated pins within a connector, and/or removing designated pins within a connector. Such embodiments can be used to uniquely identify connector location, and thus module location on the vehicle platform.

On page 3 of 16 in the Specification, lines 33-35, and continuing on page 4 of 16 lines 1-3 state: " Thus the invention may be analogized to a general purposes computer that has an operating system and a series of applications and peripheral hardware devices. In the context of the invention, the vehicle has an operating system that is used to control and recognize the various modules that are attached to the platform in a manner similar to plug-in driver software, where a module is recognized when it is attached to the platform."

Thus, a pre-loaded personality such as the well known "plug-and-play" software widely used in computer systems is clearly a means for determining the location of a module on the platform in accordance with the previously cited connector configurations.

Accordingly, Applicants submit that the Specification and Claim 6 do comply with 35 USC 112 and therefore request withdrawal of this rejection.

Dependent Claim 12

Dependent Claim 6 was rejected under 35 USC 112, first paragraph, as failing to comply with the enablement requirement. The claim contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claim has the limitation of "determining a unique identification associated with each of said special purpose modules to any of update said module, unlock functions in installed but inactivated module feature sets, and accept new modules", but fails to disclose how this is accomplished. Is the identification determined by the central control system or by the module and how does this unlock the module? How is the identification used to update the module or accept new modules?

Response to rejection

On page 3 of 16 in the Specification, lines 17-19 state: " The invention contemplates a set of quickly releasable and self-sealing connectors that employ standardized methods with regard to where the connector is located on the vehicle."

Standardized methods for identifying connectors include, among other things, keying each connector differently, shorting designated pins within a connector, and/or removing designated pins within a connector. Such embodiments can be used to uniquely identify connector location, and thus module location on the vehicle platform.

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Thus a pre-loaded personality such as the well known "plug-and-play" software widely utilized in computer systems is clearly a means for determining the location of a module on the platform in accordance with the previously cited connector configurations.

Further, on page 9 of 16 in the Specification, lines 9-27 provide two different control schemes wherein the first scheme uses a central computer to control equipment within each module, and a second scheme that utilizes a dedicated microprocessor on board each individual module.

Accordingly, Applicants submit that the Specification and Claim 12 do comply with 35 USC 112 and therefore request withdrawal of this rejection.

Claim Rejections – 35 USC 102(e)

Claims 1 through 8 and 10 through 13 were rejected under 35 USC 102(e) as being anticipated by Kempen *et al*, US-6,421,593. This rejection is defective because the applied art does not teach each and every feature of the claims, as required by US 35 102.

Claim 1 (currently amended) and Claim 15 (new)

Taking Claim 1(currently amended) as an example, Kempen *et al* fails to teach the following:

a modular vehicle, comprising:

a plurality of fixation sites along said platform, said fixation sites comprising standardized interconnection means for any of mechanical, electrical, and fluid connection to specialized functional modules;

said fixation sites being located along said platform at intervals to readily accept at least two said modules simultaneously, where

each said module is sized as a standardized fraction of the total area of said platform, with

said platform accepting a plurality of combinations of said modules, with

the total area of the modules comprising each said combination totaling no more than the area of said platform; and

a control and communications protocol communicatively provided throughout said platform for recognizing any of said module's presence, identity, capability, and function, and for configuring said modular vehicle accordingly.

Taking Claim 15(new) as a further example, Kempen *et al* fails to teach the following:

A modular vehicle, comprising:

a vehicle platform;

means for accepting at least two special purpose, self-identifying modules simultaneously on said vehicle platform in a mix and match fashion to provide said vehicle with a desired functionality for a particular application;

a central control system within said vehicle for communication with, and identification and control of said special purpose modules; and

a plurality of sites at standardized intervals along said platform that each provide a common connection for mechanical, electrical, and fluid communication for said modules.

One of the difficulties in comparing prior art to the present application stems from the imprecise use of the term *module.* Consider more precise definitions as an aid to clarification.

A *single housing unit* can be conveniently divided into *functional areas*, by partitions, where each *functional area* can be configured with appropriate input/output devices in satisfaction of specific needs or requirements. Microprocessor based *interface modules* can then be placed in each *functional area* to collect data from input devices and distribute power to output devices as shown in Fig.1, and described on lines 66-67 on column 1, and lines 1-17 on column 2, Kempen *et al.* A *single housing unit* can then be mounted on a vehicle chassis to provide, for example, a military vehicle, a fire truck, or a wrecking truck. The term *interface module* here refers to a microprocessor based unit coupled to input/output devices, each unit having substantially identical programming, the same basic input/output system firmware, the same operating system, and substantially the same application programs.

Thus, Kempen *et al* teaches construction of a *single housing unit* to be mounted on a vehicle chassis, **one *single housing* unit at a time,** where each *single housing unit* occupies the entire available mounting area of the vehicle chassis.

In the present application, a *module* in Claim 1 (currently amended) and Claim 15 (new) is clearly defined such that each *module* is an independent unit, sized as a standardized fraction of the total area of the platform (1/1, 1/2, 1/3, 1/4, etc.), is locatable along a vehicle platform at intervals to readily accept at least two of said modules simultaneously, where the total area of the modules comprising each combination totals no more than the area of the platform. The term *module* in the present application is not synonymous with the above defined term *interface module* as used in Kempen *et al.*

The prior art reference must disclose each element of the claimed invention, as correctly interpreted, and as arranged in the claim. A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. The identical invention must be shown in as complete detail as is contained in the claim. Kempen *et al* teaches construction of a *single housing unit*, having partitions, mounted on a vehicle chassis, whereas the present application teaches the construction of one or more *modules*, mounted simultaneously on a vehicle chassis. Further, the present application teaches mounting of

modules along a plurality of sites available on the vehicle chassis. Kempen *et al* is silent as to any such mention.

Accordingly, Claim 1(currently amended) and Claim 15(new) are patentably distinguished from Kempen et al.

Dependent Claims

Even without considering any individual merits of dependent claims, 2(original), 3(currently amended), 4(original), 5(original), 6(currently amended), 7(currently amended), 8(currently amended), 14(new), 16(new), 17(new), and 18(new), these claims are distinguished from Kempen *et al* because they depend from independent claims that are distinguished as discussed above.

Claim Rejections – 35 USC 103(a)

Claim 9 was rejected under 35 USC 103(a) as being unpatentable over Kempen *et al* in view of Glatzmeier *et al*. Claim 16(new) is a dependent claim, replacing canceled claim 9, and is distinguished from Kempen *et al* and Glatzmeier *et al* because it depends from an independent claim that is distinguished as discussed above.

Further, the claim is patentable since a case of obviousness has not been established, as discussed in greater detail below.

Teaching of claim limitations

First, the obviousness case is incomplete because, neither Kempen *et al* nor Glatzmeier *et al* teach or suggest all the claim limitations. To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the Examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

All words in a claim must be considered in judging the patentablility of that claim against the prior art. Taking claim 16(new) as an example, both Kempen *et al* and Glatzmeier *et al* fail to teach the following combination:

Claim 9 is canceled and Claim 16(new) included as:

16(new) The vehicle of Claim 15, said fixation sites defining fractional locations along an overall platform extent, wherein said platform receives a plurality of said modules, wherein said modules have an extent that is equal to, or that is a fraction of, said platform extent, and wherein any number of modules having a total, combined extent that is less than or equal to the extent of said platform may be attached to said platform at any given time.

Glatzmeier *et al* teach the objective of the present invention is to create a self-supporting box structure for a utility vehicle, which is designed to be self supporting and permit a large number of embodiment variants for the equipment cab, which are then not further altered, in lines 30-35 on column 1.

This self-supporting box structure is a *single housing unit*, that occupies the entire mounting area of the vehicle frame, and only one of which is mounted on a vehicle frame. The box structure is partitioned into areas, each of which can be configured to accommodate a desired function. The box structure has a single, unique design and dimension in order to accommodate various partitions, as given in lines 40-44 on column 1. Clearly, Glatzmeier *et al* teaches one single unit having internal partitions, that is mounted on a vehicle chassis.

Column 1, lines 5-29 in Glatzmeier *et al* refer specifically to patent DE-C-35 17290. This patent teaches a fire truck having a crew cab unit and a separate single housing unit called a box structure, having six equal size, equipment bays, and additional storage area(s), with both units attached to a vehicle frame, as shown in Figs. 1-3. The six equipment bays are referred to as modules, formed as container-like units of standardized dimensions of width, height and depth, each having a self-supporting support frame. The empty weight of such a box structure is relatively high, so that its use is only of advantage for special service requirements.

Clearly neither Glatzmeier *et al* nor the referenced patent DE-C-35 17290 teach "modules having an extent that is equal to, or that is a fraction of, said platform extent, and wherein any number of modules having a total, combined extent that is less than or equal to the extent of said platform may be attached to said platform at any given time".

For the reasons given above, the obviousness case is defective because there has been no suggestion or motivation, either in the references

themselves, or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.

Conclusion

For the forgoing reasons, the claims in the present application are patentably distinguished over the cited references. Accordingly, all claims should be allowed without delay.

Respectfully Submitted

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